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10/821,387	04/09/2004	Seok Jin Han	AB-2916 US	1597
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Haynes and Boone, LLP				
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2323 Victory Avenue				
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Dallas, TX 75219				
EXAMINER				
CHOW, YUK				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,387

Applicant(s)

HAN ET AL.

Examiner

YUK CHOW

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-17 is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4 and 6-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Credelle (US 7,046,256).

As to **claim 1**, Credelle discloses a method of subpixel rendering input image data onto a display panel, said input image data comprises image data formatted for a first subpixel layout and wherein said display panel comprises a second subpixel layout further comprising a repeating grouping of a plurality of primary colored subpixels and said second subpixel layout is different from said first subpixel layout, the steps of said method comprising:

subpixel rendering input image data that is input at a first clock rate (see Fig. 7(F_c));

outputting subpixel rendered data to said display panel at a second clock rate (Fig. 7(F_d/2)).

As to **claim 2**, Credelle discloses a method of Claim 1 wherein said subpixel repeating group further comprises at least one column in which more than one color

primary comprises said column (see Fig. 7, odd line and even line having different color in one column).

As to **claim 4**, Credelle discloses a method of Claim 1 wherein said first clock rate and said second clock rate are different (see Fig. 7, $F_c/2$ and $3F_c/2$ are different).

As to **claim 6**, Credelle discloses a method of Claim 1 wherein said method further comprises the step of outputting a signal indicating valid output data to the display controller (see Fig. 5A(Data Selector)).

As to **claim 7**, Credelle discloses a method of subpixel rendering input image data onto a display panel, said input image data comprises image data formatted for a first subpixel layout and wherein said display panel comprises a second subpixel layout further comprising a repeating grouping of a plurality of primary colored subpixels and said second subpixel layout is different from said first subpixel layout, the steps of said method comprising:

subpixel rendering input image data that is input at a first clock rate (see Fig. 7(F_c));

outputting subpixel rendered data to said display panel at a second clock rate (Fig. 7($F_c/2$)) wherein the output image data is buffered (see Fig. 6A(604)).

As to **claim 8**, Credelle discloses a method of Claim 7 wherein said subpixel repeating group further comprises at least one column in which more than one color primary comprises said column (see Fig. 7, odd line and even line having different color in one column).

As to **claim 9**, Credelle discloses a method of Claim 6 wherein said output image data sent to the display controller does not comprise dummy image data (see Fig. 5A, there is no dummy data was inserted).

As to **claim 10**, Credelle discloses a method of Claim 6 wherein said first clock rate and said second clock rate are the same (See Fig. 5A, there in no change of clock rate).

As to **claim 11**, Credelle discloses a method of Claim 6 wherein said first clock rate and said second clock rate are different (see Fig. 7, Fc and Fc/2 are different)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Credelle (US 7,046,256) in view of Okuno et al. (US 2002/0047923).

As to **claim 3**, Credelle discloses a method of Claim 1 wherein said first clock rate and the second clock rate are the same (see Fig. 4A).

However, Credelle's disclosure does not tech dummy data is inserted into said outputted subpixel rendered data.

Okuno discloses an image display device wherein teaches dummy data is inserted into said outputted subpixel rendered data (see Fig. 17, d0 and d5 (repeat) were inserted into Enlarged image data).

It would have been obvious to one ordinary skill in the art at the time of invention was made to use dummy data as in Okuno into display method of Credelle, because this enables proper scaling processing and improves display quality (see Okuno [0091]-0093]).

As to **claim 5**, Credelle discloses a method of Claim 1 wherein said input image data comprises more subpixel data sets (see Okuno Fig. 16 (original image data)) for each image frame than said number of subpixel data set (see Okuno Fig. 16 (reduced image data)) for each image frame for rendering on said display panel.

As to **claim 12**, Credelle discloses a method of subpixel rendering input image data onto a display panel, said input image data comprises image data formatted for a first subpixel layout and wherein said display panel comprises a second subpixel layout further comprising a repeating grouping of a plurality of primary colored subpixels and said second subpixel layout is different from said first subpixel layout, the steps of said method comprising:

subpixel rendering input image data that is input asynchronously (see Fig. 7, two different clocks).

outputting subpixel rendered data to said display panel in a format such that a timing scheme is affected to map said input image data formatted for said first colored subpixel layout onto data formatted for said second color subpixel layout (See Fig. 7, odd line and even line have different layout).

However, Credelle's disclosure does not tech dummy data is inserted into said outputted subpixel rendered data.

Okuno discloses an image display device wherein teaches dummy data is inserted into said outputted subpixel rendered data (see Fig. 17, d0 and d5 (repeat) were inserted into Enlarged image data).

It would have been obvious to one ordinary skill in the art at the time of invention was made to use dummy data as in Okuno into display method of Credelle, because this enables proper scaling processing and improves display quality (see Okuno [0091]-[0093]).

As to **claim 13**, Credelle and Okuno disclose a method of Claim 12 wherein said subpixel repeating group further comprises at least one column in which more than one color primary comprises said column (see Credelle Fig. 7, odd line and even line having different color in one column).

Response to Arguments

5. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

6. Claims 14-17 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: None of the references cited has failed to teach applicants claimed invention ***“channel formatter....second color subpixel layout”*** (as recited in claim 14). Claims 15-17 are allowed due to the dependencies of claim 14.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUK CHOW whose telephone number is (571)270-1544. The examiner can normally be reached on 8-6 M-TH E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. C./
Examiner, Art Unit 2629

/Abbas I Abdulsalam/
Primary Examiner, Art Unit 2629